

Effect of Liquidity Risk on Performance of Deposit Money Banks in Nigeria

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ABSTRACT

This study examines the effect of the credit risk ratio on the financial performance of deposit money banks in Nigeria. Ex-Post Facto research design was employed for the study. Sample sizes of five banks were selected from twenty banks quoted on the Nigerian Stock Exchange. Data were extracted from annual reports and accounts of the selected banks from 2010 to 2019. Using E-view statistical tool to test the hypothesis, the study found that credit risk ratio significantly influences the financial performance of quoted deposit money banks in Nigeria. It was recommended that bank managers should constantly engage in rigorous credit analysis, checking, default rate, the proportion of non-performing loans, regularly or at least quarterly to enable them to maintain high asset quality to enhance the financial performance.

KEYWORDS: Liquidity risk, Credit risk ratio, and net interest margin

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INTRODUCTION

Poor asset quality has been one of the major causes of bank failure especially in a developing country such as Nigeria (Ahmad & Ariff, 2007). The highest assets of banks are the loans and advances extended to customers at a given interest charge (Peterson, 2015). Investment in poor or non-performing assets by all standards and gross lending-related practices (insider abuse) form major problems of the banking sector in Nigeria (Aminu, 2013). Similarly, Adeyemi (2011) argues that before consolidation, many banks engage in sharp lending practices that resulted in poor asset quality, consequently, metamorphosed into distress in most failed banks in time past. Asset quality otherwise refers to as loan quality implies the degree of financial strength and risk in a bank's loan asset. Asset quality signifies how healthy a bank's loan assets is, as well as how valuable the asset is to the risk exposure due to a given loan facility. The reduction in the asset of banks coming from non-performing loans shocked banks in Nigeria. Alford (2010) reported that following the special examination and during the period from December 2008 to December 2009, Nigerian banks wrote off loans equivalent to 66% of their total capital; most of these write-offs occurred in the eight banks receiving loans from the Central bank of Nigeria". Most of the banks also suffered panic runs and flights to safety during the period. Also, Adeyemi identified Poor assets quality, low levels of liquidity, capital inadequacy, lack of transparency, and huge non-performing loans as major causes of bank failure in Nigeria. Farag and Nixon (2013) documented that one measure of a bank's funding profile is its loan to deposit

ratio. They maintain that a bank with a high ratio of loans (which tend to be long-term and relatively illiquid) to retail deposits could imply a vulnerable funding profile.

Allen (2014) identified two types of uncertainty that makes liquidity management on the part of banks quite difficult. The first is that each bank is exposed to idiosyncratic liquidity risk. This means that at any given date its customers may have more or fewer liquidity needs. The second type of uncertainty is aggregate liquidity risk which banks have to face. In some periods, liquidity demand is high while in others it is low, thereby exposing all banks to the same shock at the same time. Liquidity risk is said to be the assassin of banks. This risk can adversely affect both banks' earnings and capital. Therefore, it becomes the top priority of a bank's management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs. The reality on the ground is that the good performance of the banking sector is determined by its ability to meet the liquidity needs of its customers and also maximize profitability to the owners.

To measure the performance of deposit money banks there are a variety of ratios used of which Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) are the major ones (Workneh, 2015). ROA is a ratio of Income to its total asset (Khrawish, 2011). NIM is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-

earning) assets. It is usually expressed as a percentage of what the financial institution earns on loans in a specific period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that period (the average earning assets).

Liquidity and profitability are the key factors in determining the development, survival, sustainability, growth and performance of a banking system and the ability to handle the trade-off between the two is a source of concern for bank managers. Meaning that liquidity and profitability are inversely related to each other in the sense that when liquidity increases, the risk of insolvency is reduced but the profitability is also reduced. Also, when the liquidity is reduced, the profitability increases but the risk of insolvency increases, so excess desire to pursue one variable will take a toll on the other. When we say banks are liquid, they can serve the demand of new borrowers and the withdrawal of cash by their depositors without affecting their day to day activities. To do so they have to keep sufficient liquid assets their financial position. This study, therefore, examines the effect of the credit risk ratio on the financial performance of quoted deposit money banks in Nigeria.

Review of Related Literature

Liquidity

Liquidity though not a new phenomenon in finance literature has no universally accepted definition. Agbada and Osuji (2013) define liquidity as the ability of banks to fund increases in assets and meet obligations at reasonable costs as they become due. Emefiele (2015) defined Liquidity as the ability of a company to meet its liabilities when they fall due. He further defines liquidity for the banking industry, a bank's ability to meet its demand, savings and time deposit withdrawals as and when such withdrawals are demanded or are due. Within the financial system, three broad types of liquidity can be distinguished: central bank, funding and market liquidity; this capture sufficiently the workings of the financial system on an aggregate level (Buschmann & Heidorn, 2014). The links between these liquidity types are quite dynamic, complex, and strong. Hence, they can have positive or negative effects on the stability of a financial system. Funding liquidity is the availability of cash and collateral while market liquidity is the ability to convert an asset quickly in the market without loss. Funding and market liquidity are crucial elements of a bank's liquidity management which heavily rely on the bank's business model, and therefore are intrinsically linked to both sides of the bank's financial position. Funding and market liquidity relate to the mix of assets a bank holds and various funding sources, in particular, the bank's liabilities which must be met when they come due. Economic/central bank liquidity is measured by money supply and is influenced by a country's economic growth and stability, monetary circulation and monetary policy.

From the definitions above we discover two key words from the concept of liquidity, which are 'ability' and 'due' that gives the concept of liquidity the real meaning. Ability means having the capacity or power to do something well. Whenever, a Bank cannot accept liabilities, and the ability to transform them into assets as at when due, then they become insolvent and face the consequence of liquidity risk. As at when due, therefore means at the expected time. Any default on banks to meet the obligation to their customers as at when due, the spillover effects will be enormous across the banking sector. So, liquidity for the banking sector

simply means the ability to meet financial obligations as at when due.

The liquidity ratios; are composed of current ratio and quick ratio. The Current Ratio is a measure of a commercial bank's short-term solvency and is calculated by dividing current assets by current liabilities incurred. The problem associated with the measure of liquidity with the current ratio is that it is the test of quantity and not quality of the assets and hence, it does not reveal the true position of a firm's liquidity. The current ratio gives a rough idea of the firm's liquidity.

Another aspect of liquidity ratio is the quick ratio, which indicates the relationship between liquid assets and current liabilities. Quick ratio is calculated by dividing the quick asset (current asset fewer inventories) by current liabilities. The quick assets are the assets that can be converted into cash immediately without losing their values. The quick ratio is considered to be a better guide to the short-term solvency of a firm. A quick ratio is considered to represent a satisfactory current financial condition.

Credit risk

The; liquidity ratio shows the ability of the bank to match their financial obligations within the period to avoid default risk or financial distress in the future (Ibe, 2013). Ratios will be applied to measure banks' ability to meet their short-term obligations, keep their cash position and collect interest receivables. From a general perspective, the higher the liquidity position is, the greater its ability to cover periodical obligations and guarantee safety for both its customers and depositors. Approaches to liquidity ratio in this study which are considered as independent variables include:

Credit risk is regarded as the fear of default in recovering credit extensions in form of loans and advances. The Basel Committee on banking supervision (2001) defines credit risk as the possibility of losing the outstanding loan partially or due to credit events (default). Credit risk is measured by Non-Performing Loan Rate. Ahmed and Ariff (2007) posit that non-performing loans as the percentage of unsecured loans that are not serviced for three months and above. Non-performing loans are loans that give no return to the bank but also attract an additional cost of recovery, apart from the provision requirement which tends to affect the bank liquidity adversely. In a simple language, an asset becomes non-performing when it fails to contribute any income to the owners. Credit risk is one of the variables which have a negative effect on the ROE of banks this was confirmed by the study of Muriithi, Waweru & Muturi (2017); Lydnon, Ayunku & Ebitare (2016).

Net Interest Margin (NIM)

Another commonly watched measure of bank profitability is called the Net Interest Margin (NIM), the difference between interest income and interest expenses as a percentage of total loans and advances, which includes also interest income from other interest-bearing assets such as deposits with foreign banks, treasury bills and other investments. One of a bank's primary intermediation functions is to issue liabilities and use the proceeds to purchase income-earning assets. If a bank manager has done a good job of asset and liability management such that the bank earns substantial income on its assets and has low costs on its liabilities, profits will be high.

NIM = Net Interest Income / Total Loans & Advances

It shows how well a bank manages its assets and liabilities, which is affected by the spread between the interests earned on the bank's assets and interest costs on its liabilities. This spread is exactly what the net interest margin measures.

Review of empirical studies

The liquidity-profitability trade-off has been of interest to scholars for quite a long time now. The number of empirical studies that have been carried out to ascertain the effect of liquidity on the performance of deposit money banks has increased. Eliona (2013) examined the internal factors affecting Albanian banking profitability over the period from 2005 to 2012 for 12 commercial banks. Bank profitability was measured by Return on Assets (ROA). This paper uses regression analysis fixed effect model to implicate the results with the respective hypotheses. The result from the analysis shows that few internal variables have a significant influence on a bank's total assets and some others have no significant effect on bank profitability. Ibe (2013) investigated the impact of liquidity management on the profitability of banks. Three banks were randomly selected to represent the entire banking industry in Nigeria. Elliot Rosenberg Stock's (ERS) stationary test model was used to test the association of the variables under study, while regression analysis was used to test the hypothesis. The result showed that there is a statistically significant relationship between the variables of liquidity management and profitability of the selected banks. Agbada and Osuji (2013) ascertained the efficacy of liquidity management and Banking Performance in Nigeria. The study targeted banks located in Asaba, Benin City and Lagos. Findings from the empirical analysis were quite robust and indicate that there is a significant relationship between efficient liquidity management and banking performance and that efficient liquidity management enhances the soundness of bank. Olagunju, Olanrewaju and Oluwayinka (2011) determined the liquidity management and commercial banks' profitability in Nigeria. Pearson correlation data analysis was used to test the formulated hypothesis. Findings from the testing of this hypothesis indicate that there is significant relationship between liquidity and profitability. Adeyemi (2011) ascertained the main factors responsible for bank failure in Nigeria, and to assess the extent to which these identified factors are accountable for this failure and to ascertain other factors that may be responsible for it. Simple percentages were used to analyze the data and the conclusion drawn was that these three factors have been the main reasons for the incessant bank failure. Korea, Sufian (2009) analyzed the effect of macroeconomic and bank-specific determinants on the profitability of banks. He employed the panel data of 10 banks from 1997-2004. The analysis also revealed that both overhead cost and credit risk have a negative signal for Korean banks' profitability. Bordeleau and Graham (2010) determined the effect of liquid asset holdings on the profitability of U.S. and Canadian banks. Results from ordinary least squares regression analysis of panel data of the banks suggested that profitability is improved for banks that hold some liquid assets. Kosmidou (2008) examined the determinants of performance of Greek banks during the period of EU financial integration (1990-2002) using an unbalanced pooled time-series data set of 23 banks and found that less liquid banks have a lower returns on assets (ROA). Edem (2017) evaluated the effect of liquidity management on the performance of deposit money banks. 24 banks were surveyed which constitute the entire deposit money banks in Nigeria between the financial period of 1986

to 2011. Bank performance in terms of profitability as measured by its return on equity. Three hypotheses were formulated and statistically tested at 5 percent level of significance using Multiple Linear Regression Analysis. The correlation results reveal positive impacts between return on equity and liquidity management variables: liquidity and cash reserve ratios, whereas loan to deposit ratio shows negative impact. Rengasamy (2014) investigate the impact of the loan deposit ratio on the profitability of Malaysian commercial banks for the period of 2009 to 2013. Data were obtained from the annual reports of the banks. The result of the study indicated that there was a positive and non-significant impact of LDR on ROA in five banks (Bank 1, 2, 3, 4 and 8). Further, the study revealed that only one bank (Bank 5) had a negative and non-significant impact of LDR on ROA and bank 7 had a positive and a significant impact. Lydnnon et al (2016) investigated the relationship between non-performing loans and bank performance in Nigeria for the period 1994-2014. The study employed ADF Unit Root test, descriptive statistics, and multiple regression techniques. These results show that a high level of non-performing loans reduces the performance of banks in Nigeria. Muriithi et al (2017) ascertained the effect of credit risk on the financial performance of commercial banks in Kenya. The study covered the period between years 2005 and 2014. Credit risk was measured by capital to risk-weighted assets, asset quality, loan loss provision, loan and advance ratios and financial performance by return on equity (ROE). Panel data techniques of fixed effects estimation and generalized method of moments (GMM) were used. From the results, credit risk has a negative and significant relationship with bank profitability. Uwalomwa, Uwuigbe, and Oyewo (2015) investigated the effects of credit management on Banks' performance in Nigeria. A total of ten (10) listed banks were selected and analyzed for the study using the purposive sampling method. The study used both descriptive statistics and panel linear regression methodology consisting of periodic and cross-sectional data in the estimation of the regression equation. Findings from the study revealed that while ratio of non-performing loans and bad debt does have a significant negative effect on the performance of banks in Nigeria, on the other hand, the relationship between secured and unsecured loan ratio and bank's performance was not significant. Ezejiofor, Adigwe and John-Akamelu (2015) examined the effects of credit management on liquidity and profitability positions of manufacturing firms. Samples of two manufacturing companies were selected. Data were obtained from annual accounts of the companies under study, and analyzed by use of financial ratios and the three hypotheses formulated were tested with ANOVA using SPSS 20.0 version. From the analysis, it was found that credit policy can affect profitability management in manufacturing companies in Nigeria and there is a significant correlation between liquidity position and debtors' turnover of the company in Nigeria.

Most of the Nigerian researchers, focused on the micro and macro factors affecting deposit money banks in Nigeria which other literature reviewed did not consider. The mismatch in maturity between assets and liabilities affects the liquidity and profitability of deposit money banks in Nigeria, which the reviewed literature did not explore data from the annual financial statements to empirically investigate the effect of liquidity on the performance of

Interpretation

From the regression analysis, Table 2 shows that there is a positive (t-statistics, (1.769623) and significant (p-value, 0.115) association between credit risk (CRR) and net interest margin (NIM) of listed Nigerian manufacturing companies. This positive effect implies that a 0% increase in credit risk (CRR) will tend to increase the level of and net interest margin (NIM) by 1.769623. the credit risk ratio is significantly influences the financial performance of quoted deposit money banks in Nigeria.

R^2 measures the percentage of net interest margin that could be explained by changes in the independent variable, credit risk ratio. In this case, R^2 is 0.281323 (28%). This implies that about 28% of the variation in net interest margin could be explained by the effect of the independent variable, credit risk ratio, while about 72% could be attributed to other factors capable of effecting changes in net interest margin of deposit money banks. In this case, the Durbin-Watson statistic is 1.508434. This indicates the absence of autocorrelation in the data series.

Decision

Based on the analysis presented above, the null hypothesis is accepted. Hence, credit risk ratio is significantly influence the financial performance of quoted deposit money banks in Nigeria.

Discussions of Findings on Credit Risk Ratio

This finding reveals that the degree at which credit risk ratio influence the financial performance of quoted deposit money banks in Nigeria is not significant. The findings agree with the findings of Williams (2007) who found a negative relationship between credit risk and net interest margin in Australia where he interprets the finding as evidence that banks are unable to accurately price credit risk. In a more recent study carried in Russia, Fungáčová and Poghosyan (2011) also found a negative relationship between credit risk and net interest margin. The study of Muriithi et al (2017) in Kenya conforms to this research work which revealed that credit risk has a negative and significant relationship with bank profitability. Poor asset quality and high non-performing loans to the total asset are related to poor bank performance both in short run and long run. Lydnnon et al (2016) in their study in Nigeria discovered that high level of non-performing loans would reduce the performance of banks in the long run in Nigeria.

This result implies that net interest margin which focused on the profit earned on interest activities between the interest income generated by banks compared with the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets is not accompanied with the increase of profitability. Higher levels of loans mean higher incomes from the interest on the loan. In our banks the result is negative. Interest on loans and advances are the main sources of income for a deposit money bank, by given out loans, Improper credit risk management reduce the bank profitability, affects the quality of its assets and increase loan losses and non-performing loan which may eventually lead to financial distress. Better credit risk management results in better bank performance. Thus, it is of crucial importance for banks to practice prudent credit risk management to safeguard their assets and protect the investors' interests.

Conclusion and Recommendation

From our findings on credit risk ratio it was concluded that deposit money banks should not be deterred by the negative impact of credit risk on their performance rather they should constantly engage in rigorous credit analysis, checking, default rate, the proportion of non-performing loans, regularly or at least quarterly so as to enable them to maintain high asset quality to enhance the financial performance.

Finally, outstanding bank management means deliberate balancing of the liquidity and profitability trade-off. The reason is that excessive liquidity reduces profitability while excessive liquidity risks exposure, in pursuit of maximum profitability could lead to the insolvency of a bank. So, deposit money banks should maintain an optimal equilibrium point between liquidity and profitability.

It was recommended that bank managers should constantly engage in rigorous credit analysis, checking, default rate, the proportion of non-performing loans, regularly or at least quarterly to enable them maintain high asset quality.

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